

IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF HAWAII

ILIO'ULAOKALAN COALITION,
a Hawaii, nonprofit
corporation; NA'IMI PONO, a
Hawaii unincorporated
association; and KIPUKA, a
Hawaii unincorporated
association,

Plaintiffs,

vs.

DONALD H. RUSMFELD, Secretary
of the United States
Department of Defense; and
FRANCIS J. HARVERY, Secretary
of the United States
Department of the Army,

Defendants.

CIV. NO. 04-0002 DAE BMK

DECLARATION OF MICHELLE
MANSKER

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1. I am the Natural Resource Manager for the 25th
Infantry Division (Light) and the U.S. Army, Hawaii,
Schofield Barracks, Oahu, Hawaii and I make this
declaration based on personal knowledge unless otherwise
indicated.

2. I have a BS in Biology, with a concentration in
botany, from Coastal Carolina University and an MS in
Botany, with a concentration in ecological physiology, from
the University of Hawaii at Manoa. My work at the

University of Hawaii involved research in almost all of the plant communities present in Hawaii, including research on: *Acacia koa* in wet forests of Hawaii Volcanoes National Park; silverswords and their relatives in the alpine shrubland of Haleakala National Park; greenswords and silverswords in the wet montane bog communities found on West Maui; tree ferns in the wet forest of Kokee State park on the island of Kauai; high elevation wet bog communities on Kauai and Oahu; and mesic and coastal communities on Oahu.

3. I have a total of 11 years experience as a Botanist, including ten years working with and studying native Hawaiian flora.

4. Between 1999 and 2004 I worked as a Botanist for the Honolulu United States Fish and Wildlife Service ("USFWS") Office. For the first three years as a Botanist with the USFWS, I worked on designating critical habitat for 292 plant species within the Hawaiian Islands. For the remaining two years of my tenure with the USFWS I worked as a consultation biologist, focusing mainly on formal Section 7 consultations under the Endangered Species Act ("ESA"), 16 U.S.C. § 1531, et seq., concerning Army routine and transformation training at all ranges on Oahu besides Makua, as well as the reinitiation (critical habitat) of

formal consultation for routine military training at Makua Military Reservation ("MMR"). In my capacity as a biologist with the USFWS, I assisted with the analyses and drafting of the Biological Opinions ("BOs") for both routine and transformation training on Oahu and the reinitiation for MMR.

5. From 2004 to the present I have been employed as the Natural Resource Manager for the United States Army Garrison-Hawaii. My primary responsibility as the Natural Resource Manager is to manage all the natural resources on Army lands in Hawaii. This includes analyzing the impacts of military training on federally listed species and developing minimization and mitigation measures to reduce these impacts. I manage a staff of 50 biologists, 24 at Pohakuloa Training Area ("PTA") and 26 on Oahu, and a total budget of over \$8 million a year.

6. This declaration supplements my earlier declarations filed in this action and will focus primarily on the opinions offered by Plaintiffs' expert, Mr. John Michael Castillo.

7. The USFWS, the Federal Agency responsible for the care and management of species (fauna and flora) under the Endangered Species Act ("ESA"), issued two (2) **non-jeopardy** biological opinions relating to the United States Army's

routine military training and transformation on the Islands of Hawaii and Oahu. After undertaking an in-depth analysis of the Army's proposed military training and transformation, the potential effect(s) on the species by such training, and the mitigation proposed by the Army, the USFWS concluded that the Army's proposed actions **do not jeopardize** the species. Rather, the USFWS found that the Army's mitigation efforts would increase the numbers and distribution of the species, thereby aiding in their long-term survival and recovery.

8. PTA is located in a saddle between the volcanoes of Mauna Kea and Mauna Loa on the Island of Hawaii. PTA "consists primarily of a sub-alpine tropical dryland ecosystem." (Biological Opinion of the U.S. Fish and Wildlife Service for Routine Training and Transformation of the 2nd Brigade 25th Infantry Division (Light), U.S. Army Installations, Island of Hawaii ("2003 BO") at 11. The soils at PTA have been classified as "lava flow associates. These associates are typically gently sloping to steep, excessively drained, and **nearly barren lava flows**" (emphasis added). See Rare Plants of Pohakuloa Training Area by Robert B. Shaw, Center for Ecological Management of Military Land, Department of Forest Sciences, Colorado State University, 1997 ("1997 CEMML Study"), of which a

true and correct copy is attached hereto as Attachment "1". The two lava types - *pahoehoe* and *aa* - cover 80% of PTA's land mass (2003 BO at 11; 1997 CEMML Study).

9. PTA consists of approximately 108,801 acres of which 47% or 50,700 acres comprise the central impact area (2003 BO at 11 and 16). The central impact area is the designated location where training munitions land and constitutes the area that overlaps with the Surface Danger Zone ("SDZ") for each of the munitions used at PTA. The central impact area contains a large amount of unexploded ordinance ("UXO"), and therefore is off-limits to both Army and civilian employees. Because of the substantial danger due to the existence of UXO in the impact area, the Army does not actively manage invasive or native species in this area, nor does it actively fight fires that start in the impact area. Fires in the impact area are not necessarily considered a negative occurrence, however, because they burn off the fuel load, reducing the chance of future fires. Indeed, fires within the impact can serve the same function of reducing fuel load as prescribed burns.

10. Plaintiffs' expert's opinion that "catastrophic wildfires" may result from Stryker-related training is inconsistent with conclusions based on his earlier research at PTA, as well as with his own description of the land at

PTA. See Plaintiffs' Disclosure Re: Expert Opinions of John Michael Castillo at 5, of which a true and correct copy is attached hereto as Attachment "2"; Deposition Transcript of John M. Castillo dated December 11, 2006 ("Castillo 12/11/06 Dep.") at 73:221-25. In 1997, Mr. Castillo served as a researcher for the 1997 CEMML study, which concluded that PTA consisted of "mostly barren lava." This conclusion was subsequently affirmed by Mr. Castillo during his recent deposition testimony: "As you know, most of the installation is rock, a lot of it is pahoehoe" (Castillo 12/11/06 Dep. at 78:21-22). "Land dominated by barren lava or lava possessing a discontinuous and open vegetation structure, comprises the majority of PTA, and do not have fuel loads sufficient to carry fire and are suitable to use as **natural firebreaks**" (emphasis added). See IWFMP 2003 at 7-45, of which a true and correct copy of excerpts are attached hereto as Attachment "5."

11. A catastrophic fire is not likely to result from Stryker-related training at PTA because much of the barren lava runs along the east and western edges of the impact area, separating important endangered species habitat in the western and eastern portions of PTA from the impact area. The aerial photo map of PTA, of which a true and correct copy is attached hereto as Attachment "3" clearly

demarcates the barren lava areas (in black) abutting the impact area. The natural separation between the areas containing heavy fuel loads (i.e. the impact area) and the endangered species habitat help ensure that the small fires that start within the impact area do not spread to the listed species habitat.

12. Further, Mr. Castillo's opinion that fire is the greatest threat to species is contradicted by the USFWS' conclusions in its two BOs and his own prior research. First, in its 2003 BOs the USFWS identifies the threat from ungulates (non-native sheep, goats, and pigs) as the main threat to 13 of the 15 listed species. Mr. Shaw (1997 CEMML Study), with whom Mr. Castillo worked as a researcher for the Center of Environmental Management of Military Lands ("CEMML") during surveys of rare plants at PTA, similarly found that "ungulates have a significant influence on the health, vigor, reproduction, and survival of many of the rare species" found at PTA. Mr. Shaw (1997 CEMML Study) identifies six listed plant species (*Hedyotis coriacea*, *Neraudia ovata*, *Silene hawaiiensis*, *Silene lanceolata*, *Solanum incompletum*, and *Zanthoxylum hawaiiensis*) that have suffered either loss of individuals or loss of entire populations from ungulates.

13. The USFWS identifies removal of ungulates as the number one conservation need for those same species within the 2003 BO. In recognition of the extreme threat posed by ungulates to the native species at PTA, the Army will be fencing off over 30,000 acres, of the 57,000 total acres, of prime habitat located outside the impact area at PTA. This effort will include fencing the most intact of the remaining habitat at PTA. With the main threat (ungulates) to the majority of the listed species at PTA removed, the habitat and listed species should begin to recover on their own.

14. The Army will facilitate the species recovery process by removing invasive plant species in the fenced areas to allow the native plants to revegetate the area. The Army will also provide additional individuals of the listed species to help bolster the number of individuals within the fenced areas and to ensure the genetics of the plants located within the impact area are represented in the fenced units. To date, the Army has outplanted over 1,300 individuals of several of the different listed species at PTA.

15. The 1997 CEMML study further found that only about 4% (2,200 acres) of the area outside the impact area had been affected by military activities. According to the

1997 CEMML study, the rare species at PTA mainly occupy "remote areas with little or *no chance of being disturbed by military training*" (emphasis added).

16. Mr. Castillo recognizes that there are positive effects to the ecosystem at PTA from military training. During his second deposition on December 11, 2006, Mr. Castillo submitted a document titled, "Declaration of J. Michael Castillo" ("Castillo Dec."), of which a true and correct copy is attached hereto as Attachment "4". In this document, Mr. Castillo characterizes the upland environment of PTA as "the largest and most contiguous (connecting without a break) native-dominated forest and shrubland," (Castillo Dec. at ¶ 2) and then goes on to attribute the existence of this large amount of high quality habitat at PTA because "military training has protected it from other more destructive land uses such as cattle production." Castillo Dec. at ¶3.

17. Mr. Castillo asserts that "fountain grass is continuing unabated" (Castillo Dec. at ¶ 4) and then uses this erroneous assumption to form many of his follow-up opinions. This opinion, however, is undermined by Figure 7, Fuel management, in the PTA 2003 BO. The Army currently employs a staff of 4 full time employees whose sole responsibility is to control invasive plant species on the

installation. Figure 7 identifies the areas where these efforts are concentrated, mainly in and around endangered species habitat. Over time, the Army's efforts have been reduced because of the success in reducing the overall concentration of fountain grass in these areas. This fuel reduction, in combination with the lava flows that separate the impact area from the listed species habitats to the east and west of the impact area, helps minimize the chances that a fire will start in the impact area and spread to the listed species habitat. Contrary to Mr. Castillo's assertion that fountain grass will form continuous stands throughout the west, northern, and eastern portions of the installation, Figure 7 establishes that the Army is actively reducing fountain grass concentrations in the eastern and western portions of the installation.

18. Mr. Castillo's opinion that the pattern of fountain grass distribution near the Twin Puus and Range 17 poses a fire threat is undermined by the fact that the Army currently maintains a fuel free access road that traverses between Kipika Kalawamauna (an important listed species habitat) and the Twin Puu/Range 17 area. This fuel free access road serves the dual purpose of providing access to fires for fire fighting resources and as a fuel

break that should slow fires down that approach from the impact area. Mr. Castillo further recognizes that the Twin Puu area or Range 17 is not the source of most fires at PTA. Castillo Dec. at 5.

19. While Mr. Castillo asserts that most fires at PTA "started at Ranges 1,8,10, 11, and 12" (Id.), there is a substantially large barren lava flow between the impact area and the species located to the east of Red Leg Trail (see Attachment 3). As Figure 4 and 5 of the USFWS BO clearly illustrates, there is also a substantial distance between the species located to the west of the impact area and the target locations. In addition, although historically many fires are initiated in the impact area from tracers, these fires are small in size (less than 1 acre) and have not impacted listed species.

20. In contrast, the IWFMP establishes that "much of the threat to endangered species populations is a result of off-post ignitions." IWFMP at 7-51. In other words, the sources of the two largest recent fires at PTA were caused by non-military training sources. Since July 1990, over 8,000 acres have burned on Army property, and 7,700 of those acres were burned by non-military sources. Indeed, the largest of the two fires occurred in 1994 and originated on State lands in the Puu Anahulu area below

PTA; the fire moved onto the installations western section, burning over 2/3 of the prime habitat within Kipuka Kalawamauna. Mr. Castillo himself concedes that the two largest fires at PTA that he is aware of were started outside the Army's installation on state-managed land in the Puu Anahulu Game Management Area and spread onto the western edge of the installation (Castillo 12/11/06 Dep. 26: 15-25). The Puu Anahulu area is outside the installation and therefore, the fires could not have been caused by military training activities.

21. Given this past experience, the Army is currently constructing a large western firebreak separating State lands from the military installation. This firebreak is not to stop fires that start on the installation from military training, but is intended to prevent fires that are more likely to start on State land below the installation from progressing into the western area of the installation, which contains a large concentration of listed species.

22. Mr. Castillo's opinion that there is a decline in the number of individuals and/or populations of seven of the eleven species - *Asplenium fragile*, *Haplostachys haplostachya*, *Silene hawaiiense*, *Silene lanceolata*, *Stenogyne angustifolia*, *Tetramolopium arenarium*, and

Zanthoxylum hawaiiense - located at PTA between 1993 and 2003 (Castillo Disclosure at ¶ 2) is inconsistent with recent data and Mr. Castillo's own research work. In a study prepared by CEMML, "Survey and Status of *Silene hawaiiensis* on the Big Island, Hawaii, 2003-2005," and in which Mr. Castillo assisted with the survey work, the author identifies a large increase in the known number of individuals of *Silene hawaiiensis*. This CEMML study estimates the number of plants on Hawaii Island at over "25,000 plants encompassing an area of approximately 20% of the island's surface area." The USFWS originally estimated a total of 532 plants at the time of listing.

23. In addition, since completion of the 2003 BOs for PTA, there has been a substantial increase in the number of individuals of 8 (see Table 1 below) of the 11 plant species found at PTA. This total count of 11 plant species does not include those on the Keamoku parcel yet as the Army has not completed surveys of this parcel due to the recent purchase.

Table 1. Listed Endangered Plant Species Found at PTA and their Status over time.

Species name	Number of Individuals in 2003 BO	Number of Individuals in 2006 CEMML Annual Natural Resource Management Report

<u>Hedyotis coriacea</u>	90	255
<u>Neraudia ovata</u>	10	426
<u>Portulaca sclerocarpa</u>	22	31
<u>Silene lanceolata</u>	1,000	10,443
<u>Solanum incompletum</u>	40	1,038
<u>Spermolepis hawaiiensis</u>	27	5,270
<u>Tetramolopium arenarium</u>	260	601
<u>Zanthoxylum hawaiiense</u>	255	343
<u>Asplenium fragile</u>	605	368
<u>Haplostachys haplostachya</u>	13,956	12,479
<u>Stenogyne angustifolia</u>	7,500	1,533

24. Although the information about the three species located in the bottom three rows of the above table may appear to reflect a decrease, this is the wrong conclusion to draw because these species were only partially surveyed between 2004 and 2006. Therefore, the table does not represent an actual decline but a lack of data. What the above table does make clear, however, is that the majority of the listed species at PTA are increasing in the number of individuals from year to year; and it is quite a substantial increase at that. In some cases, the individuals have increased by almost 200X their original numbers (see, e.g., *Spermolepis hawaiiensis* data above).

25. Interestingly, while Mr. Castillo discusses the decline and/or disappearance of seven species in his

December 11, 2006, deposition (see above ¶ 22), he does not specifically identify the cause of the decline. He does, however, identify browsing by non native ungulates as a threat. Castillo 12/11/06 Dep. 41:13-25, 42:1-25, 43:1-24, 44:1-5). To my knowledge, the declines that Mr. Castillo refers to were caused by invasive ungulate species and not fires caused by military activities. It is also interesting to note that Mr. Shaw (1997 CEMML Study) identifies ungulates as the cause of decline to these same species culled out by Mr. Castillo in his December 11, 2006, deposition (see above ¶ 22).

26. The damage caused by ungulates supports the Army's fencing efforts at PTA and also supports the USFWS's conclusion that the long-term benefit of fencing by the Army far outweighs any short-term effect to the species from training. It is abundantly clear that if the Army were not to fence these large ecosystems at PTA, more individuals and populations of listed species would be lost.

27. I would like to clarify a statement made in my declaration submitted to this Court on November 20, 2006, specifically ¶ 5. My statement that there are no listed species within the SDZ for Range 11T referred to only one specific SDZ, but there are many SDZs for this range; and

listed species are present in some of the SDZs for Range 11T. As currently designed, the range infrastructure and construction will not impact any listed species.

28. Moreover, these listed species were analyzed in the 2003 BO for PTA as they also fall within the BAX SDZ. Therefore, use of Range 11T will not have irreparable impacts. As discussed above, the USFWS issued a non-jeopardy BO. A non-jeopardy opinion is issued only when the USFWS determines that a Federal agency's action is not likely to jeopardize the continued existence of a species. Based on the USFWS' 2003 BOs, the Army's training and transformation activities will not directly or indirectly, reduce appreciably the likelihood of both the survival and recovery of any of the listed species in the wild by reducing the reproduction, numbers, or distribution of that species located at PTA or any of the Oahu Installations (50 CFR § 402.02).

29. Mr. Castillo's reliance on the 2003 Makua prescribed burn as evidence that the Army's fire management plans, even good ones, are not properly implemented and can result in catastrophic fires from training related activities is misplaced and ignores recent evidence. First, the 2003 Makua fire - as Mr. Castillo admits - was a prescribed burn that the Army was required to undertake

pursuant to a settlement agreement and Court order. The 2003 Makua fire was emphatically not caused by military training. Second, the geographic configuration, wind and weather patterns, and vegetation at Makua are completely different from the relatively flat, sparsely vegetated lava terrain that generally characterizes PTA. Third, in 2005 the Army hired a fire expert, Mr. Jason Greenlee, who to my knowledge, holds a Ph.D in Fire Science and has extensive experience as a firefighter and burn boss. Last, on December 6, 2006, the Army successfully conducted a prescribed burn at Makua for the purpose of conducting remaining subsurface archeological surveys within the Company Combined Arms Assault Course ("CCAAC"), as required under the aforementioned settlement agreement and Court order. The recent evidence of the Army's fire management plans and implementation totally refute Mr. Castillo's opinion on the Army's ability to implement its well designed and staffed fire management plans.

30. In my opinion, and as the record herein establishes, there will be no irreparable harm to species on the Islands of Hawaii and Oahu by the Army's training and transformation of the 2nd Brigade, including the six critical projected identified in the Federal Defendants briefs.

I declare under penalty of perjury that the foregoing
is true and correct to the best of my knowledge.

Executed this 15th day of December, 2006.


MICHELLE MANSKER